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ties, up to Mr. Alfred Russell Wallace and to Professor Cockerell, who thinks "that the human race has no natural craving for alcohol at all, but it has a craving for excitement and other states of mind which may be induced artificially, and that when the natural exercise of highly valuable faculties is denied, as is so often the case in our present civilization, artificial means, often highly injurious, will be resorted to." But it is the absolute savage who is most prone of all races on earth to excessive indulgence, and surely, living, as he does, in a 'state of nature,' the natural exercise of 'highly valuable faculties' is not denied to him. Moreover, if Professor Cockerell is right, what is the difference between the civilization of the South and North of Europe, which permits in the former case the natural exercise of valuable faculties, but forbids them in the latter, for the north Europeans are much more drunken than the south Europeans.

Let the reader think awhile. Why does he not get drunk? Is it because he constantly resists the craving, or because the craving does not exist in him? I think he will say, 'the latter.' But has he no acquaintance, reared and living under much the same conditions, who drinks, to excess, though all his interests call him to abstain? I think he is sure to have such an acquaintance. Now, in this respect nations like the Italians or the Spaniards are mainly composed of individuals like my reader, while nations like the American Indians or the native Australians are mainly composed of individuals like his unfortunate acquaintance.

Here is a significant fact: old records seem to prove that the classic races were anciently much more intemperate than at the present time. For instance, the temperance question was formerly a burning one in Greece, where unhappy Helots were made to furnish 'awful examples' to the aristocratic youth. Here is another: the deadly narcotic opium has been in use for some hundreds of years in India, and never or very rarely does a native of that country take it to excess; it has been in use for about two hundred years in China, and most of the Chinese are temperate, though some take it to excess; it has been recently introduced into Burmah, and, practically speaking, all

Burmans take it to such excess that they perish of it, and, therefore, in their own country the English have forbidden the use of opium to Burmans alone, while permitting it to all other peoples, just as in Canada alcohol is forbidden to the aborigines alone. Here is a third: tobacco causes little or no elimination, and, therefore, the craving for it is as strong in races that have longest used it as among races to which its use is comparatively strange.

G. ARCHDALL REID.

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#### AMPHIBIA OR BATRACHIA.

PROFESSOR BURT G. WILDER has made some remarks in the last number of SCIENCE (August 20, 1897) about the French word *Batraciens*. He says: "Dr. Baur shows that the French word *Batraciens* was applied to the frogs, toads and salamanders by Brogniart in 1799, and that the Latin forms *Batrachii* and *Batrachia* were not introduced until 1804 and 1807, by Latreille and Gravenhost. But does not Dr. Baur lay undue stress upon the distinction between the French and the Latin form? *Batraciens* is not (like *crapaud*, etc.) a vernacular word; it is the French form, or, galloparonym (!), of the Latin *Batrachia*, and the employment of the former would seem to constructively sanction the use of the latter." Professor Wilder 'as a teacher of zoology, but without claim to expert authority upon taxonomic points,' seems to be absolutely ignorant of the fundamental rule in nomenclature (published in all Codes of Nomenclature), that all vernacular names, of genera, families, orders, classes, even if formed from a classical root, are never accepted. Such vernacular names have especially been used in France by Cuvier, Lesson, de Blainville and notably other French writers of the early part of the present century. Such names have in many cases been later adopted into the science under a proper classical form, and should take date only from this later introduction. I should like to recommend to Professor Wilder the study of 'The Code of Nomenclature adopted by the American Ornithologists' Union, 1892.' This code is followed by all American naturalists. The case of *hippocampus* referred to by Professor

Wilder has nothing to do with zoological nomenclature.

G. BAUR.

THE SOURCE OF METENCEPHALON AND OTHER  
LATIN NAMES FOR THE SEGMENTS  
OF THE BRAIN.

TO THE EDITOR OF SCIENCE: In my paper, 'The definitive encephalic segments and their designations,' read before the Association of American Anatomists last May, were offered objections to the action of the Anatomische Gesellschaft\* in designating the region between the cerebellum and the myel (spinal cord), not by *metencephalon*, as in the last three editions of Quain's 'Anatomy,' but by *myelencephalon*. This last was proposed by Owen for the entire neuron (central nervous system) in 1866 or earlier, and, so far as I know, its application to a single segment was made by Huxley in 1871. Before printing the paper above named, I desire to ascertain when and by whom that region of the brain was first called metencephalon; incidentally, also, the source and date of the other words, *prosencephalon*, *diencephalon*, *thalamencephalon*, *mesencephalon* and *epencephalon*, that have been offered as equivalents for von Baer's names, *Vorderhirn*, *Zwischenhirn*, *Mittelhirn*, *Hinterhirn* and *Nachhirn*. Information through your columns or directly will be very welcome.

BURT G. WILDER.

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ANDRÉE'S NORTH POLE BALLOON VOYAGE.

IN SCIENCE for August 20th, p. 291, occurs a copy of a telegram purporting to come from Dr. Nils Ekholm regarding the Andrée balloon which is attracting so much attention. One serious error in the transcription should be corrected. It is stated that the balloon at the start rose to a height of 15,000 to 25,000 ft. The original may have been 150 to 250 metres (490 to 820 ft.), but could not possibly have been as given. To ascend 25,000 ft., over 3 tons of ballast would have to be thrown out, and this, of course, is not thinkable. At 25,000 ft. two-

thirds of the gas would have been lost and the voyagers would have been in great danger of freezing to death.

It is a little difficult to understand Dr. Ekholm's figures. Admitting that 1,800 cubic feet of gas leaked out each 24 hours, entailing a loss in buoyancy of 123 pounds, as he gives it, there should still be enough gas for over 70 days, instead of 22 to 24 days, as given. A leakage of 1,800 cubic feet would be about 1%, which is not excessive, though about 2 times as much as was expected. There are very few balloons built that have a leakage less than 3%. The very best 'cæcum' balloons ever made have a leakage of  $\frac{1}{2}\%$  in 24 hours. The total buoyancy of the gas was 12,000 pounds. The 3 men would weigh 500 and the balloon probably not over 1,700 pounds. Very tight balloons have been made in this country that would weigh for the same size about 900 pounds. This would give 80 days' flotation. It is probable that the computation calls for even a heavier balloon and also for carrying the car all the way. It is customary, however, to prepare the car so that it can be used as ballast and at the last use the ring of the balloon.

It is a great pity that more experience was not gained in a long voyage before attempting the extremely hazardous voyage to the Pole. The fact that the balloon was beyond control at the very start is very significant. It is doubtful if any aëronaut living can release safely a balloon of 170,000 cubic feet capacity in a twenty-five-mile wind. Those who were present at St. Louis on June 16, 1887, will remember the extreme difficulty experienced in sending off the World balloon 160,000 cubic feet in a twenty-mile wind.

If plans had been made to keep the balloon at 6,000 feet or so the success of the voyage would have been better assured. By using a small pilot balloon it would have been easy to send the overflow into the smaller balloon and, after the larger had leaked out enough, the gas in the smaller balloon could have been sent into the larger and the smaller used as ballast. At 6,000 feet the danger of rain and sleet freezing on the balloon would have been avoided and the currents which are far steadier and more rapid would have reduced the voyage by

\* His. W. Die Anatomische Nomenclatur. *Archiv. für Anat. u. Physiol.*, Anat. Abt., Supplement-Band, 1895, p. 156.